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ILLUMINA CAMBRIDGE LTD.

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION**

ILLUMINA, INC. and  
ILLUMINA CAMBRIDGE LTD.,

Plaintiffs,

v.

BGI GENOMICS CO., LTD.,  
BGI AMERICAS CORP.,  
MGI TECH CO., LTD.,  
MGI AMERICAS, INC., and  
COMPLETE GENOMICS INC.,

Defendants.

COMPLETE GENOMICS INC.,

Counterclaim-Plaintiff,

v.

ILLUMINA, INC., and  
ILLUMINA CAMBRIDGE LTD.,

Counterclaim-Defendants.

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Case No. 3:19-cv-03770-WHO  
Case No. 3:20-cv-01465-WHO

**PLAINTIFFS' NOTICE OF MOTION  
AND MOTION FOR JUDGMENT  
AS A MATTER OF LAW -  
AFFIRMATIVE CASE**

Judge William H. Orrick

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**NOTICE OF MOTION**

TO ALL PARTIES AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that, pursuant to FRCP 50(a), as soon as the Court may practically hear before the Honorable William H. Orrick, United States District Court, Northern District of California, 450 Golden Gate Ave., Courtroom 2, San Francisco, CA 94102, Plaintiffs Illumina, Inc. and Illumina Cambridge LTD (collectively “Illumina”), will and hereby does move for judgment as a matter of law that Defendants Complete Genomics, Inc., BGI Genomics Co. Ltd., BGI Americas Corp., MGI Tech Co., Ltd., and MGI Americas, Inc. (collectively “BGI”) willfully infringed and indirectly infringed U.S. Patent No. 7,566,537 (the “’537 Patent”), U.S. Patent No. 9,410,200 (the “’200 Patent”), U.S. Patent No. 10,480,025 (“the ’025 Patent”), U.S. Patent No. 7,771,973 (the “’973 Patent”), and U.S. Patent No. 7,541,444 (“the ’444 Patent”) (collectively, the “Illumina Asserted Patents”).

This motion is based on this notice and supporting memorandum, the trial record, and such other matters of which the Court may take judicial notice.

**RELIEF REQUESTED**

Illumina respectfully seeks an order that BGI indirectly infringed and willfully infringed the Illumina Asserted Patents, as a matter of law.

## MEMORANDUM OF POINTS AND AUTHORITIES

### **I. INTRODUCTION**

On September 9, 2021, this Court granted Illumina’s Motion for Summary Judgment that “the Accused StandardMPS products infringe all Asserted Claims of all Asserted Patents” and “the Accused CoolMPS products infringe the Asserted Claims of the ’973 and ’444 Patents.” Dkt. No. 424 at 25<sup>1</sup>. Illumina hereby moves for judgement as a matter of law (“JMOL”) on the following issues:

- Willful infringement of claims 1, 4, and 6 of the ’537 Patent, claims 11 and 19 of the ’200 Patent, claims 1, 9, 27, 31, 33, 34, 42, 47, and 50 of the ’025 Patent, claim 13 of the ’973 Patent, and claim 3 of the ’444 Patent (collectively “Asserted Claims”);
- Induced infringement of the Asserted Claims; and
- Contributory infringement of the Asserted Claims.

This memorandum highlights key reasons why JMOL is proper. There are additional reasons and evidence set forth throughout the record that support this motion.

### **II. LEGAL STANDARD**

Pursuant to Rule 50(a), a court may grant judgement as a matter of law “[i]f a party has been fully heard on an issue during a jury trial and the court finds that a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.” FRCP 50(a). “The grant or denial of a motion for judgment as a matter of law is a procedural issue not unique to patent law, reviewed under the law of the regional circuit in which the appeal from the district court would usually lie.” *Summit Tech., Inc. v. Nidek Co., Ltd.*, 363 F.3d 1219, 1223 (Fed. Cir. 2004). In determining whether to grant a motion for judgement as a matter of law, “the Court must draw all reasonable inferences in favor of the nonmoving party, and determine whether reasonable minds could come to a single conclusion in favor of the moving party.” *MediaTek Inc. v. Freescale Semiconductor, Inc.*, No. 11-5341, 2014 WL 4643947, at \*1 (N.D. Cal. Sept. 17, 2014) (citing *E.E.O.C. v. Go Daddy Software, Inc.*, 581 F.3d 951, 961 (9th Cir. 2009)). “A district court may grant a motion for judgment as a matter of law pursuant to Rule 50(a) or (b) ‘when the evidence presented at trial permits only one reasonable

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<sup>1</sup> All citations to the docket refer to the docket in Case No. 3:19-cv-03770-WHO, unless otherwise specified.

conclusion,’ *i.e.*, ‘if no reasonable juror could find in the non-moving party’s favor.’” *Nichols v. City of San Jose*, Case No. 14-cv-03383-BLF, 2017 WL 3007072, at \*1 (N.D. Cal. July 14, 2017) (quoting *Torres v. City of Los Angeles*, 548 F.3d 1197, 1205 (9th Cir. 2008)) (internal quotation marks and citations omitted).

### III. ARGUMENT

#### A. Illumina Should Be Awarded JMOL Of Willful Infringement

The trial record is replete with overwhelming evidence that BGI’s infringing of the Asserted Patents was willful. BGI does not dispute in any legally viable way that it willfully infringes the Illumina Asserted Patents.

##### 1. Legal Standard For Willfulness

Section 284 of the Patent Act is the statutory basis for willful infringement and provides that a “court may increase the damages up to three times the amount found or assessed.” 35 U.S.C. § 284. “The subjective willfulness of a patent infringer, intentional or knowing, may warrant enhanced damages, without regard to whether his infringement was objectively reckless.” *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1933 (2016). Subjective willfulness “is generally measured against the knowledge of the actor at the time of the challenged conduct.” *Id.*; *PersonalWeb Techs. LLC v. Int’l Bus. Machines Corp.*, Case No. 16-cv-01266-EJD, 2017 WL 2180980, at \*20 (N.D. Cal. May 18, 2017) (“[Willful infringement] turns on the subjective belief of the accused infringer, measured at the time of the challenged conduct.”). Willfulness must be shown by a preponderance of the evidence. *Halo*, 136 S. Ct. at 1934. “Knowledge of the patent alleged to be willfully infringed continues to be a prerequisite to enhanced damages.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1341 (Fed. Cir. 2016) (citing *Halo*, 136 S.Ct. at 1932–33).

##### 2. BGI Copied Illumina’s Patented Azidomethyl Technology

There is overwhelming evidence that BGI copied Illumina’s patented azidomethyl technology into its infringing products.

For example, BGI’s first sequencer, the BGISEq500, was launched in October 2015. Trial Tr.<sup>2</sup>

<sup>2</sup> References to Trial Tr. refer to the trial transcripts in this case from November 15-19, 2021. See Dkt. Nos. 512, 515, 519, 523, 524.

277:17-20. The BGISEq500 was referred to internally at BGI as the “Zebra Project.” Trial Tr. 277:17-24. During the 2014-2015 development project of the BGISEq500, BGI began referring to Illumina with the code name “XY.” Trial Tr. 279:21-280:23. Dr. Chongjun Xu, who led the team responsible for developing BGI’s sequencing chemistry, testified that “one of the key components of the Zebra instrument is the SBS chemistry.” Trial Tr. 276:7-8; 360:3-5. After discovering that Illumina used azidomethyl as a blocking group for its SBS chemistry, BGI decided to use azidomethyl in its own commercial products. Trial Tr. 277:17-278:9. There is extensive documentary and testimonial evidence showing that BGI copied Illumina’s patented azidomethyl technology to develop its SBS products, including for example:

- Chongjun Xu testified that Defendants used Acme Biosciences to analyze Illumina’s blocked nucleotides. 279:21-280:11. Acme Biosciences concluded that Illumina used azidomethyl as a blocking group. TX2539; Trial Tr. 310:7-311:4, 312:10-16.
- BGI performed mass spectrometry and fluorescent spectra analysis on Illumina’s blocking nucleotides. TX0653; TX0659.
- Several entities knew and approved of the use of Illumina’s reagents to develop BGI’s sequencing chemistry. Trial Tr. 287:13-288:7.
- Chongjun Xu sent an email stating “since we want to mimic XY to make sure it works in version 1” of its “sequencing chemistry” wherein “XY” refers to Illumina. TX0369; Trial Tr. 309:12-310:6.
- Chongjun Xu sent an email in 2015 summarizing the status of various components of BGI’s sequencing chemistry. Under a section entitled “SE50 sequencing kit,” the email states “We have 2 versions of reagent, one is BB, other (called Zebra) is developed from XY.” TX0394-002.

In addition, Dr. Romesberg testified that the evidence demonstrates that BGI performed LCMS analysis on Illumina’s nucleotides and copied the precise structure of Illumina’s modified nucleotides disclosed in the 2008 Bentley paper that was published in *Nature*. Trial Tr. 632:7-9; 646:13-650:18.

### **3. BGI Was Aware Of The Illumina Asserted Patents And Continued To Infringe Despite Knowledge Of The Illumina Asserted Patents And Knowledge Of Infringement**

No reasonable jury could find that BGI was not aware of the Illumina Asserted Patents and no reasonable jury could find that BGI did not continue infringing despite knowledge of the Illumina Asserted Patents and knowledge of the infringement.

There is extensive evidence that BGI was aware of the Illumina Asserted Patents. For example, Radoje Drmanac, the founder of Complete Genomics, testified that he was aware that Qiagen lost their

1 IPR on the '537 Patent in 2015. Trial Tr. at 460:12-18; 507:10-16. Likewise, Yongwei Zhang, the  
2 CEO of the Americas region for the BGI group and Duncan Yu, the President of MGI, testified that  
3 they were aware that Qiagen lost their IPR on the '537 Patent and that the Court had issued a preliminary  
4 injunction against Qiagen's GeneReader product, which used the claimed azidomethyl blocking groups.  
5 Trial Tr. 319:24-320:10; Dkt. 525-7 (D. Yu Tr.) at 36:14-38:2.

6 Similarly Xun Xu, who is on the Board of Directors of both MGI Tech and Complete Genomics  
7 and Executive Director of CGI, was also aware that Qiagen had lost its attempt to invalidate Illumina's  
8 patented azido rights in March 2015. Dkt. 525-6 (X. Xu Tr.) at 11:11-13:3; 47:22-48:1. Around that  
9 time, when questioned by a colleague at BGI Americas about "how much IP risk do you see regarding  
10 the SBS chemistry," he failed to respond. Dkt. 525-6 (X. Xu Tr.) at 47:14-47:21. Xun Xu was also  
11 aware that Qiagen's GeneReader product used the azido chemistry and that the California court enjoined  
12 the GeneReader product. Dkt. 525-6 (X. Xu Tr.) at 54:3-54:14. Nonetheless, BGI continued with its  
13 rollout of its infringing BGI products.

14 Similarly, the key leaders at BGI were aware that BGI had lost the two IPRs it filed against  
15 Illumina's patents, both of which relied on Zavgorodny. *See, e.g.*, Trial Tr. at 379:13-25 (C. Xu); *id.* at  
16 476:21-477:24; 482:9-11 (R. Drmanac).

17 The fact that BGI was aware of the Illumina Asserted Patents is unsurprising given that Snezana  
18 Dramanac testified that she was aware of Illumina's 2008 Nature article that described the azido  
19 blocking terminating group and that it "caught everybody's eye" that was working on sequencing. Trial  
20 Tr. 735:15-17, 736:25-737:2.

21 Furthermore, Illumina put BGI on notice of potential issues with respect to its chemistry. For  
22 example, on July 5, 2015, Tim Orpin of Illumina sent an email to BGI regarding their switch to SBS,  
23 explaining that "I have also been asked to confirm with BGI if the soon to be launched BGISEq-500  
24 will be based on SBS chemistry." TX0696-001. This email was forwarded to Xun Xu, who is on the  
25 Board of Directors of MGI Tech, the Board of Directors of Complete Genomics, and the Executive  
26 Director of Complete Genomics, by a colleague who stated "Troubles coming." Dkt. 525-6 (X. Xu Tr.)  
27 at 11:11-13:3. Despite this, BGI continued with its rollout of the BGISEq 500 in Fall 2015.

28 There is also extensive evidence that BGI was aware of the IP risk and its infringement, yet



continued with its large scale R&D research program in the United States. For example, on October 21, 2016, Jian Wang, who is chairman of the Board of Directors for the overall BGI group, instructed the Executive Management Team to come up with a “strategy to return to America.” TX0698-001; Dkt. No. 525-5 (J. Wang Tr.) at 16:3-16:12. Yongwei Zhang reported:

He wants the EMT to come up with a strategy to return to America. He understands that we have IP issues. But he emphasized that he has said several times before and said again today that we should NOT be afraid. We should not be afraid of battles. We should not delay this forever. He believes in a year or so, we will be able to sell V2 to United States. We should come up with a plan. We can start from Science & Service, and keep IVD to a later time.

Duncan pointed out the IP issue, and suggested that we could collect samples in the United States and have CG to be the sample collection center. And then we transfer the samples to Canada or other places to do sequencing. In this way, we could minimum our IP risk. Mr. Wong did not object but again, indicate we need to come up with a plan for execution.

TX0698. As Duncan Yu, the President of MGI, explained with respect to this email, Chairman Wang “always encourages us not to be afraid, just go to the battle.” Dkt. No. 525-7 (D. Yu Tr.) at 65:16-65:25. Despite its awareness of the “IP risk,” BGI continued its large scale infringing R&D project in the United States.

As another example, just four days after BGI’s IPR petitions were rejected, on April 23, 2018, Charles Bao, who is General Manager of BGI Americas, emailed others at BGI warning of the impact of the IPR rejections:

Thanks both. Indeed, the USPTO decision will be a hit to our US business. Other than MGI business, our plans for San Jose lab expansion, a few collaboration initiatives that rely on instrument solutions (e.g., Hopkins, Weill Cornell/NYGC, etc.) will be affected. Canada solution, both instrument sales and genome center model, should be a no brainer now. I will take the lead on our path for business justification and action plans.

TX0324-002; Dkt. No. 525-1 (Bao Tr.) at 11:15-17; 11:23-11:25; Trial Tr. at 380:1-382:9. Recognizing the implications of its failed IPR, BGI headquarters decided to stop doing its infringing sequencing in the United States for its sequencing services business. Dkt. No. 525-1 (Bao Tr.) at 104:10-23. Nonetheless, BGI continued its infringing R&D in the United States until a preliminary injunction was issued in this Court in June 2020. Trial Tr. at 490:23-491:17; D.I. 185.

BGI does not rely on any opinion of counsel regarding non-infringement or invalidity for the

1 Illumina Asserted Patents.

#### 2 4. BGI's Defenses In This Case Do Not Avoid Willfulness

3 BGI's defenses do not save it from willfulness. *Halo*, 136 S. Ct. at 1926 ("The Seagate test  
4 further errs by making dispositive the ability of the infringer to muster a reasonable defense at trial,  
5 even if he did not act on the basis of that defense or was even aware of it."). No reasonable jury could  
6 find that BGI subjectively believed that it did not infringe the Illumina Asserted Patents or that the  
7 Illumina Asserted Patents are invalid.

8 For example, during this case, BGI did not serve any expert reports with opinions that the  
9 accused StandardMPS products do not infringe the asserted claims of the Illumina Asserted Patents or  
10 that the CoolMPS products do not infringe the asserted claims of '973 Patent or the '444 Patent. D.I.  
11 424 at 25. On summary judgment, the Court found direct infringement for both products. *Id.*

12 As another example, with respect to invalidity, BGI is relying on previously rejected prior art,  
13 including Roger Tsien, *et al.*, WO 91/06678 (May 16, 1991) ("Tsien") and Theodora W. Greene &  
14 Peter G.M. Wuts, Protective groups in Organic Synthesis 246-92 (3d ed. 1999) ("Greene & Wuts"), and  
15 Sergey Zavgorodny *et al.*, 1-Alkylthioalkylation of Nucleoside Hydroxyl Functions and Its Synthetic  
16 Applications, TETRAHEDRON LETTERS 32:7593-96 (1991) ("Zavgorodny"). The United States  
17 Patent and Trademark Office ("PTAB") has repeatedly rejected *Inter Partes* Reviews ("IPRs") based  
18 on Zavgorodny. For example, Qiagen filed an IPR that was based on Zavgorodny and the PTAB rejected  
19 that IPR. TX1803; Trial Tr. 460:12-462:6. The Federal Circuit then issued a written opinion affirming  
20 the PTAB's decision. TX0413. After that, BGI filed two IPRs on the '537 Patent because, according to  
21 the founder of CGI, Dr. Drmanac, it was "an opportunity" for CGI to "file a better IPR" than the prior  
22 proceedings. Trial Tr. at 478: 5-10; 479:13-489:16; TX0984; TX0985. Yet, both of BGI's IPRs, which  
23 were also based on Zavgorodny, were rejected. TX0986; TX0987; Trial Tr. at 482; Trial Tr. at 866:14-  
24 21.

25 As another example, on September 9, 2016, Judge Alsup in the Northern District of California  
26 issued a preliminary injunction against Qiagen enjoining Qiagen from infringing the '537 Patent.  
27 TX1783; Trial Tr. 474:15-475:10. Judge Alsup found that Qiagen had "made a weak showing that a  
28 person of skill in the art would have been motivated to look to the reference to azidomethyl in the phenol

chapter of Greene & Wuts to find an appropriate blocking group for the methods described in Tsien or Ju, which addressed aliphatic alcohols, not phenols.” TX1783-011. Yet in this case, BGI is relying on two of those same references, Tsien and Greene & Wuts, along with the repeatedly rejected Zavgorodny reference. Trial Tr. at 878:13-16.

No reasonable jury could find that BGI subjectively believed that the Illumina Asserted Patents are invalid, including for example, because it is relying on previously rejected prior art, including Zavgorodny which has been rejected multiple times.

## **B. Illumina Should Be Awarded JMOL Of Indirect Infringement**

### **1. Legal Standard For Indirect Infringement**

“Induced infringement under 35 U.S.C. § 271(b) requires proof of underlying direct infringement, as well as proof that (1) ‘the defendant knew of the patent,’ (2) the defendant knew or should have known that ‘the induced acts constitute patent infringement,’ and (3) the defendant ‘possessed specific intent to encourage another’s infringement.’” *Bio-Rad Labs., Inc. v. Int’l Trade Comm’n*, 998 F.3d 1320, 1335 (Fed. Cir. 2021) (quoting *Sanofi, LLC v. Watson Labs. Inc.*, 875 F.3d 636, 643–44 (Fed. Cir. 2017)). “Contributory infringement under 35 U.S.C. § 271(c) requires proof that (1) the defendant had ‘knowledge of the patent in suit,’ (2) the defendant had ‘knowledge of patent infringement,’ and (3) the accused product is not a staple article or commodity of commerce suitable for a substantial noninfringing use.” *Id.* (quoting *Commil USA, LLC v. Cisco Sys., Inc.*, 575 U.S. 632, 639 (2015)).

### **2. Acts of Direct Infringement**

This Court determined that Defendants directly infringe the Asserted Patents on summary judgment. Dkt. No. 424. The evidence demonstrates each Defendant entity has committed acts of direct infringement, which were induced by other Defendant entities. The evidence also shows that all of the Defendants acted as one collective entity in their direct infringement of the Asserted Patents, which included performing research using the infringing technology, performing sequencing runs for KOLs using infringing technology, selling reagents to KOLs, and offering to sell sequencers and reagents to research institutions. Examples of direct infringement of Illumina’s patented technology that were induced and/or contributed to by one or more Defendant entities are described below.

1 CGI directly infringed the asserted patents at least by performing research using patented azido  
2 technology, running sequencers using the patented azido technology, and importing infringing  
3 sequencing kits in the United States. Trial Tr. 276:4-6, 279:14-280:6, 287:13-288:7, 435:23-436:2,  
4 436:17-438:5, 438:18-440:22, 491:4-17; Dkt. No. 571-10 at 115:6-115:15.

5 MGI Tech directly infringed the asserted patents at least by performing research using patented  
6 azido technology, running sequencers using the patented azido technology, and importing infringing  
7 sequencing kits in the United States. 276:7-9, 279:14-19, 279:21-280:6, 287:13-288:7, 435:23-436:2,  
8 436:17-438:5, 439:16-440:22, 491:4-17; Dkt. No. 571-10 at 115:6-115:15.

9 MGI Americas directly infringed the asserted patents at least by selling infringing sequencing  
10 reagents to Stanford University, offering to sell a sequencer to U.C. Davis, importing infringing  
11 sequencing kits and sequencers into the U.S. and supporting the KOL program through which  
12 Defendants performed sequencing services for KOLs. TX0328; TX0944; TX2324; Trial Tr. 427:20-  
13 22, 434:7-12, 437:9-20, 438:15-440:22, 490:17-491:17. MGI Americas also directly infringed the  
14 Asserted Patents at least by operating a sequencing lab that was used to run infringing sequencing kits.  
15 Dkt. No. 571-10 at 115:6-115:15.

16 BGI Americas directly infringed the asserted patents at least by working in conjunction with  
17 other entities to attract KOLs and assisting with business plans and collaboration initiatives that relied  
18 on infringing technology. TX0323-002; TX700; 491:18-24. BGIA was also the distributor for  
19 infringing MGI sequencing kits, and accordingly directly infringed the asserted patents at least by  
20 participating in selling sequencing reagents to KOLs. TX0321-019.

21 BGI Genomics directly infringed the Asserted Patents, for example, because BGI Genomics  
22 employees were responsible for the “overall insight for all aspects of the Zebra project” which involved  
23 infringing use of Illumina’s patented azido technology. Trial Tr. 357:9-15; Dkt. No. 571-6 at 71:17-  
24 71:23. BGI Genomics also directly infringed the Asserted Patents at least because the acts of CGI,  
25 MGI, MGIA, and BGIA can be attributed to BGI Genomics because the directives to infringe the  
26 Asserted Patents came from upper management, which included BGI Genomics. TX0699-002; *see also*  
27 Trial Trans. 395:7-12; *infra* part B.3.

### 3. Defendants Acted As “One BGI” Group

No reasonable jury could find that Defendants were not inducing infringement of each other on the basis that the Defendant entities acted as one organization. The Defendant entities are a tightly interwoven collection of related companies that all operate under the larger umbrella of the BGI Group. The evidence shows that Defendants adopted and worked to implement a “One BGI” strategy across all BGI Group entities. For example Charles Bao, the General Manager of the BGIA, testified that Defendants’ “One BGI strategy” meant that “all the divisions in one region needs to collaborate and cooperate.” Dkt. No. 525-1 at 213:25-214:14. In addition an internal BGI document reveals that starting in at least 2018, there was a push for the “America’s team” (*i.e.*, MGIA, CGIA, and BGIA) to “work more proactively with other BGI divisions, such as MGI and BGI Genomics.” TX0699-002; *see also* Trial Tr. 395:7-12. That same document also showed a plan to centralize and coordinate resources between the American entities, with support from MGI and BGI Genomics, to achieve a “ONE BGI model within the Americas Region!!!”. TX0699-014.

The structure of the Defendant organizations also demonstrates that the Defendant entities were acting as one unit. The Chairman of the BGI Board of Directors, Jian Wang, testified that the BGI Board of Directors is an “overarching Board of directors” “governing all the companies.” Dkt. No. 525-5 at 16:5-13. Chairman Wang himself is responsible for the “strategical level of planning of the whole BGI.” Dkt. No. 525-6 at 18:5-9. Yongwei Zhang, the CEO of MGI, testified that Chairman Wang knew about the launch of BGI’s sequencing in the US. Trial Tr. 404:12-19. The BGI Group also has an executive management team (“EMT”) with members from across the different BGI entities. Dkt. No. 525-7 at 103:3-9. The instruction to enter the US market, including performing infringing sequencing runs for KOLs, came from the very top of the BGI Group. *See* TX0726; TX1588; TX0697; TX0698.

Finally, from at least 2018-2020, Yongwei Zhang was the BGI Group VP and COO of the Americas Region. Trial Tr. 352:16-24. He testified that in that role, he was associated with the BGI “broader conglomerate.” *Id.* Mr. Zhang lead the “overall American business” of the BGI Group during that time, including not only MGI and BGI Genomics, but also “the headquarter, the overall roles in America territory.” Dkt. No. 525-6 at 71:17-25. And prior to his role as Group VP, although Mr. Zhang

1 worked for various Defendant entities, he always “in the big sense” considered his “employer to be  
2 BGI.” Trial Trans. 353:4-11. BGI’s centralized approach to the management of the Americas territory  
3 further demonstrates the Defendant entities were encouraging each other to infringe.

#### 4 **4. Each BGI Defendant Has Induced Infringement**

5 Even when looking at the entities individually, no reasonable jury could find that Defendants  
6 did not induce the infringement of the other Defendant entities, in addition to third-parties.

7 BGI Genomics induced at least CGI and MGI to infringe Illumina’s patents. First, BGI  
8 Genomics is a customer of MGI. Trial Tr. 400:4-9. BGI Genomics purchased sequencers from MGI  
9 and encouraged MGI to continue the infringing research work in San Jose in order to provide  
10 “alternative products” to BGI Genomics. Trial Tr. 395:21-396:8. In addition, in 2019 BGI Genomics  
11 and Natera entered into a collaboration agreement, in which BGI Genomics asked CGI to perform  
12 infringing sequencing runs in the US for Natera. Trial Tr. 655:20-656:5. As part of its collaboration  
13 with BGI Genomics, Natera attempted to acquire a MGISEQ-2000 sequencer from CGI for use in  
14 Natera’s San Carlos, CA lab. TX0322.

15 MGI Tech induced at least MGIA and CGI to infringe the asserted patents. First, MGI  
16 encouraged CGI’s infringing R&D work in San Jose by subsequently using CGI’s R&D to improve the  
17 MGI sequencers sold worldwide. Dkt. No. 525-2 at 203:13-204:13; *id.* 205:15-22. With respect to  
18 MGIA, in 2018 and 2019, the General Manager of MGI, Roy Tan, authorized the importation of  
19 sequencers from China to MGI Americas. Trial Tr. 433:14-16; *id.* at 434:7-20; Dkt. No. 525-10 at  
20 22:12-22:18. Those sequencers were used by both MGIA and CGI in the US, including for the purpose  
21 of conducting MGI and CGI’s infringing sequencing work with KOLs. Trial Tr. 434:12-432:3; *see also*  
22 TX0943 (email from CGI employee projecting reagent kit needs for KOL “early access” project and  
23 subsequently estimating the amount of revenue that MGI should expect to receive “after full release of  
24 sequencing sets in the USA”). MGI also sold the sequencing reagents kits to the Defendant entities  
25 located in the San Jose facility. Trial Tr. 409:1-3; *id.* at 405:6-9 (entities in San Jose include CGI,  
26 MGIA, BGI US, and BGI Research). The evidence shows that the sequencers at the San Jose facility  
27 were capable of running both CoolMPS and StandardMPS reagents. Trial Tr. 408:10-14. In 2019 Dr.  
28 Tan, working for MGI Tech, also authorized the operations of the MGIA lab in California with the



commercial sequencers. Dkt. No. 525-10 at 115:6-15.

Another MGI witness, Xun Xu, testified that CGI was a subsidiary of MGI Tech and MGI Tech made “the decisions for Complete Genomics.” 3770 Dkt. 525-6 at 12:21-13:6. That same witness is currently both on the Board of Directors of MGI Tech and an executive director of Complete Genomics, further showing the interrelatedness between the two entities. *Id.* at 11:12-17; *id.* at 12:14-16.

BGIA induced at least CGI to infringe by encouraging CGI to split the costs of advertising in the US for MGI’s “DNB technology” used in BGI’s infringing sequencers. TX0700.

MGIA induced at least CGI to infringe by sharing the costs of business development and marketing with CGI. Trial Trans. 655:24-656:5.

CGI induced at least MGIA to infringe by sharing the costs of business development and marketing with MGI. Trial Trans. 655:24-656:5. In addition, CGI induced third-party reagent manufacturers, Azco Biotech and Acme Biosciences, to synthesize and analyze the infringing azidomethyl reversible terminators that CGI then used to perform infringing sequencing runs in San Jose. Trial Trans. 312:1-9; 733:2-7; 729:14-19; 569:11-22.

The Defendant entities also knew of the Patents, should have known that the induced acts constitute patent infringement, and possessed specific intent to encourage acts of direct infringement. Exemplary evidence of the requisite knowledge and intent is discussed in Part III.A.

## **5. Each BGI Defendant Has Contributed to the Infringement of Another**

No reasonable jury could find that the Defendant entities have not contributed to the infringement of the Asserted Patents. For example, the evidence demonstrates that MGIA has contributed to infringement at least by importing reagent kits from China and selling and offering to sell infringing sequencing kits and sequencers to KOLs. Trial Tr. 434:7-20, 436:25-437:20, 490:17-491:3; TX2324; TX0328. As described below, the reagent kits and sequencers are materials and apparatus, respectively, especially made for infringing use of at least the methods claimed by the Asserted Patents. CGI and MGI Tech have contributed to infringement at least by importing sequencing kits and sequencers from China. Trial Tr. 279:14-20, 409:1-3, 433:14-16, 434:7-14; *see also* Dkt No. 571, Appendix F at 13:4-13:6. BGIA has contributed to infringement of the asserted patents at least by assisting MGIA in offering to sell sequencers to KOLs and acting as MGI’s distributor for infringing

1 sequencing kits. TX0323-002; TX700; TX0321-019. BGI Genomics has contributed to infringement  
2 at least by offering to sell sequencers—for example, to Natera as a part of a collaboration—that are  
3 apparatus especially made for infringing use. TX0322; Trial Tr. 655:20-656:5.

4       The sequencers that were imported into the United States and offered for sale in the United  
5 States are apparatus for use in practicing the process claimed in the asserted patents, constitute a material  
6 part of the claimed invention, are made for use in infringing the Asserted Patents, and are not a staple  
7 article of commerce suitable for substantial non-infringing use. BGI’s sequencers are especially made  
8 to use Standard and CoolMPS technology, which utilizes the patented azido technology. *See e.g.*,  
9 435:23-436:2. Likewise, the sequencing kits that were imported into the United States and offered for  
10 sale are materials for use in practicing the patented processes, constitute a material part of the claimed  
11 invention, are made for use infringing the asserted patents and are not a staple article of commerce  
12 suitable for substantial non-infringing use. The sequencing kits contain azidomethyl-blocked  
13 nucleotides and are especially made for use in sequencing by synthesis. As described above in Section  
14 III.A, Defendants knew that the sequencers and reagent kits were especially made for infringement of  
15 Illumina’s Patents.

#### 16 **IV. CONCLUSION**

17       For the foregoing reasons and reasons Plaintiffs previously identified and submitted to the Court,  
18 Plaintiffs respectfully request that the Court issue an order that BGI willfully infringed the Illumina  
19 Asserted Patents.

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Respectfully submitted,

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